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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,773	03/08/2004	Robert C. Newman JR.	P/10-641	4092
7590 09/02/2005 OSTROLENK, FABER, GERB & SOFFEN, LLC 1180 Avenue of the Americas New York, NY 10036			EXAMINER LEE, WILSON	
			ART UNIT 2821	PAPER NUMBER
DATE MAILED: 09/02/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/795,773

Applicant(s)

NEWMAN ET AL.

Examiner

Wilson Lee

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☒ Claim(s) 7-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/19/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **Claim Rejections – 35 U.S.C. 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-22 are rejected under 35 U.S.C. 102(b) as being anticipated by El-Hamamsy et al. (5,517,086).

Regarding Claim 10, El-Hamamsy discloses an electronic ballast (See Figure 2) for driving at least one lamp (CFL) comprising:

- a rectifying circuit (D1-D4) operatively connectable to an AC line (AC source);
- a valley fill circuit including a capacitor (C1);
- the valley fill circuit operable to selectively charge the capacitor (C1) from the rectifying circuit (D1-D4) through an impedance (R4) and a first electronic switching device (Q2); and
- an inverter circuit including at least one electronic switching device (Q1) for supplying lamp current to the lamp current to the lamp (CFL);
- wherein the capacitor (C1) is charged during at least 90° (e.g. 135°) of each half-cycle of the AC line (See Col. 3, lines 41-54).

Regarding Claim 11, El-Hamamsy discloses that the valley fill circuit includes a buck converter circuit (Capacitor C1 and/or transformer T1-A, T1-B store energy).

Regarding Claim 12, El-Hamamsy discloses that the valley fill circuit includes an inductor (T1-B).

Regarding Claim 13, El-Hamamsy discloses that the first electronic switching device (Q2) is a MOSFET.

Regarding Claim 14, El-Hamamsy discloses that the valley fill circuit includes at least one of the at least one switching device (Q2) of the inverter circuit.

Regarding Claim 15, El-Hamamsy discloses that a flyback transformer (T1-A, T2-B) coupled to the capacitor (C1), to control the delivery of energy to the capacitor (C1).

Regarding Claim 16, El-Hamamsy discloses that the flyback transformer (T1-A, T2-B) is connected to the capacitor (C1) by a controllably conductive device (Q1).

Regarding Claim 17, El-Hamamsy discloses an electronic ballast for driving at least one lamp (CFL) (See Figure 2) comprising:

- a rectifying circuit (D1-D4) operatively connectable to an AC line (AC source);
- a valley fill circuit (C1, D5) including an energy storage device (C1);
- the valley fill circuit operable to selectively (by switches Q1, Q2 and IR2155 gate driver) charge the energy storage device (C1) (See Col. 3, lines 38-41)
- a back end (Q1, Q2, R1, R2) which includes an inverter circuit (Q1, Q2) that supplies a lamp current to a lamp (CFL);
- a control circuit (IR2155 driver) for controlling the operation of the inverter circuit (Q1, Q2);
- a cat ear circuit (C5, R4) that supplies power to the control circuit (IR2155 driver) and the inverter circuit (Q1, Q2) draws a first current from the AC line

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(10) during a predetermined portion (e.g. 135°) of each half-cycle which is greater than 90° of each half-cycle of the AC line (See Col. 3, lines 41-54).

Regarding Claim 18, El-Hamamsy discloses an electronic ballast for driving at least one lamp (CFL) comprising:

- a rectifying circuit (D1-D4) operatively connectable to an AC line (AC source) (See Figure 2);
- a valley fill circuit including an energy storage device (C1) (See Col. 3, lines 38-41); and
- the valley fill circuit operable to selectively (driven by switches Q1, Q2 and IR2155 gate driver) charge the energy storage device (C1) (See Col. 3, lines 38-41) from the rectifying circuit through an impedance (T1-B, T1-A or R4) and a first electronic switch (Q1, Q2).

Regarding Claim 19, El-Hamamsy discloses that the energy storage device is a capacitor (C1) (See Col. 3, lines 38-41).

Regarding Claim 20, El-Hamamsy discloses that the impedance is an inductor (T1-B or T1-A) (See Col. 4, lines 1-3).

Regarding Claim 21, El-Hamamsy discloses that the impedance is a resistor (R4) (See figure 2).

Regarding Claim 22, El-Hamamsy discloses that the first electronic switch is a MOSFET (Q1 or Q2) (See Figure 2).

Claims 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Weng (5,986,901).

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Regarding Claim 18, Weng discloses an electronic ballast for driving at least one lamp (See abstract) comprising:

- a rectifying circuit (BR) operatively connectable to an AC line (AC source) (See Figure 2);
- a valley fill circuit (valley-fill PFC circuit) including an energy storage device (Cc) (See Col. 2, lines 64-65, Col. 3, lines 62-67, Col. 5, 58-67); and
- the valley fill circuit operable to selectively (driven by Tc) charge the energy storage device (Cc) (See Col. 3, lines 38-41) from the rectifying circuit through an impedance (Lin) and a first electronic switch (switching power supply, see abstract).

Regarding Claim 19, Weng discloses that the energy storage device is a capacitor (C1).

Regarding Claim 20, Weng discloses that the impedance is an inductor (Lin).

### **Claim Rejections – 35 U.S.C. 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weng (5,986,901) in view of Iannello.

Regarding Claim 7, Weng discloses an electronic ballast (See Figure 10) for driving at least one lamp comprising:

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- a rectifying circuit (BR) operatively connectable to an AC line for providing a rectified voltage;
- a current drawing current circuit (PFC comprising Tc, charge pump Cc, See Col. 5, lines 60-68) connected across the rectifying circuit;
- the current drawing circuit drawing current from the AC line only when the instantaneous voltage of the AC line nears zero (See Col. 2, lines 58-68) to inherently reduce the total harmonic distortion of the input current drawn by the ballast because his invention is employed to reduce the power line's pulsating line current (Iannello teaches that the pulsating current will result in total harmonic distortion); and
- an inverter circuit (200) connected to the rectifying circuit that supplies a lamp current to the at least one lamp.

Regarding Claim 8, since Weng discloses that PFC can draw current near zero therefore it is a cat ear because it matches the definition disclosed in the application. (See Page 5, lines 9-10 of the application).

Regarding Claim 9, Weng discloses that the cat ear circuit draws current from the AC line when the rectified voltage is below a fixed value which is the voltage of the capacitors C1 and C2 (See Col. 6, lines 50-57).

#### **Allowable subject matter**

Claims 1-6 are allowed.

The following is an examiner's statement of reasons for allowance:

a cat ear circuit connected to said source of AC power, said cat ear circuit being adapted to conduct current for a first relatively short time following a first zero crossing of said line voltage and for a second relatively short time prior to the next zero crossing of said line voltage thereby to reduce the total harmonic distortion of the current drawn from said source of AC power below that which would occur in the absence of said cat ear circuit such as required by claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.


Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For



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more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Wilson Lee", is written over a horizontal line.

Wilson Lee  
Primary Examiner  
U.S. Patent & Trademark Office

8/31/05